

ABSTRACT

The present invention relates to methods and materials used to express the HBM protein in animal cells and transgenic animals. The present invention also relates to transgenic animals expressing the high bone mass gene, the corresponding wild-type gene, and mutants thereof. The invention provides nucleic acids, including coding sequences, oligonucleotide primers and probes, proteins, cloning vectors, expression vectors, transformed hosts, methods of developing pharmaceutical compositions, methods of identifying molecules involved in bone development, and methods of diagnosing and treating diseases involved in bone development. In preferred embodiments, the present invention is directed to methods for treating, diagnosing and preventing osteoporosis.